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ABSTRACT

Over the last decade or so, researchers have started to describe some of the ways young children begin to acquire and apply certain gender-relevant concepts, constructs, and behaviors. Researchers are beginning to build developmental models detailing young children's acquisition of certain gender-typed behaviors and gender schema factors. The gender schema might be loosely defined as the many cognitive concepts and/or constructs associated with children's acquisition and use of gender-relevant information and their performance of gender-typed behaviors. This study examined behavioral correlates of the gender schema. Subjects were 47 preschoolers with either the mother or father of each child also participating (38 mothers, 9 fathers). Children were classified as younger with a mean age of 41.2 months, or older, with a mean age of 57.3 months. Children were interviewed individually and completed tasks assessing their gender-role in two categories: knowledge and flexibility. Older children demonstrated greater amounts of gender-role knowledge than the younger children. Younger and older children's amounts of gender-role flexibility also differed, with younger children demonstrating more flexibility than older children. Although younger and older children's patterns of masculine and feminine gender-typed behaviors did not differ significantly, boys' and girls' patterns did. A number of significant associations among boys' and girls' reported amounts/frequencies of gender-typed behaviors and aspects of their social environments were reported. Overall the results suggest that early gender-role development is a multidimensional and somewhat complicated construct, involving cognitive, behavioral, and social components. (ABL)

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Cognitive, social, and behavioral correlates of the gender schema: Relations and implications

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Cognitive, social, and behavioral correlates of the gender schema: Relations and implications

Over the last decade or so, researchers have started to describe some of the ways young children begin to acquire and apply certain gender-relevant concepts, constructs and behaviors (Carter, 1987; Fagot, Leinbach, & Hagan, 1986). Consequently, researchers are beginning to build developmental models detailing young children's acquisition of certain gender-typed behaviors and gender schema factors (for example, children's gender-role knowledge and flexibility; e.g., Martin, Little, & Wood, 1990; Signorella, 1989).

The gender schema might be loosely defined as the many cognitive concepts and/or constructs associated with children's acquisition and use of gender-relevant information and their performance of gender-typed behaviors (Levy, 1987). Gender schema models of early gender-role development have stressed the importance of understanding individual and developmental differences in the ways boys and girls, and younger and older children, acquire and apply components of the gender schema (Levy, 1989a; Signorella, 1987).

An abundance of gender-role research and theory now clearly demonstrate that early gender-role development is a multi-dimensional construct, containing numerous cognitive, social and behavioral facets which vary at both developmental and individual difference levels (Huston, 1983; 1985). However, perhaps because researchers have been captivated with examining factors affecting early gender-role development independently, our understanding of some of the links between cognitive, social and behavioral

components of early gender-role development, and developmental and individual differences in these links, remain sparse. The goal of the present project was to begin to examine relations among some cognitive, social, and behavioral facets of early gender-role development, and examine how these relations differ developmentally and for boys and girls.

To summarize then, it is accepted that there are: 1) important cognitive, gender schema components of gender-role development, 2) significant behavioral aspects of early gender-role development, 3) developmental and individual differences in the patterns children acquire certain cognitive and behavioral gender-role facets, and 4) important relations among some, but not all, of the many cognitive, social, and behavioral facets of early gender-role development. At the same time, it is also realized that: 1) refined theoretical discussions and/or empirical examinations of some of the relations among cognitive, social, and behavioral aspects of boys' and girls', and younger and older children's, early gender-role development are lacking.

Today some preliminary data from a larger project examining some relations among certain cognitive, social, and behavioral components of younger and older preschool boys' and girls' early gender-role development will be presented. However, although most contemporary models of early gender-role development generally acknowledge that important interrelations among cognitive, social, and behavioral components of early gender-role development exist, specific theory-based predictions as to the relations among these

various factors are difficult to formulate. This is not to say that one cannot intuitively extract certain associations among cognitive, behavioral, and social aspects of young children's gender-role development, however.

Gender Schema research and theory have suggested strong age-related increases in children's knowledge of gender-roles. Simply put, older children know more gender-role content than younger children. However, Gender Schema research has provided some contradictory findings regarding age-related shifts in children's amount of gender-role flexibility. Gender-role flexibility is commonly assessed by asking the child, "Who can play with such and such a toy" and providing the child with three boxes/alternatives 1) "boys only", 2) "girls only" and 3) "both boys and girls". The number of items the child places into the "both box" is taken to reflect the child's amount of gender-role flexibility. Research findings derived from this gender-role flexibility measure have been inconsistent, in that sometimes children's amount of flexibility increases with age and at other times their flexibility has declined with age. Numerous arguments as to what construct this measure actually taps exist and are important. The point is simply to note that this measure of gender-role flexibility yields inconsistent results.

A number of hypotheses derived from gender schema, cognitive social learning, and other models of early gender-role development were made. Before proceeding, a summary of the measures that children and parents completed will be presented.

METHOD

Forty-seven 36 to 68 month-old preschoolers (*m*age = 49.4 mo.; *n*=24 boys, *n*=23 girls) and either their mother or father participated (38 mothers, 9 fathers). Children were classified into two age groups (*n*=23, *m*age = 41.2 mo., younger; *n*=24, *m*age = 57.3 mo., older) based on the overall mean age of the sample.

Children were interviewed individually and completed tasks assessing their gender-role: (a) knowledge, and (b) flexibility. Parents completed questionnaires assessing: (a) the frequencies at which the male and female adults in the household routinely perform a number of masculine and feminine household tasks (such as preparing and serving meals (F), buying children's school clothes (F), deciding when the car needs attention (M), and mowing the lawn (M) and (b) their marital status. Parents also completed a questionnaire assessing their child's: (a) frequencies of performing 20 gender-typed behaviors (10 masculine, 10 feminine), such as expressing affection (F), keeping things neat and orderly (F), is physically aggressive (M), and building and fixing things (M),/and (b) their child's patterns of television viewing.

RESULTS

Seven primary variables emerged from the interviews with the children and parents' completion of the questionnaires. Table One shows the means and standard deviations associated with these scores.

TABLE ONE

Several patterns of results, each involving different types of analyses, were predicted.

TABLE TWO

First, congruent with gender schema research and theory we expected that younger and older children's amounts of gender-role knowledge and flexibility should differ substantially. However, it was also predicted that unlike their patterns of gender-role knowledge and flexibility, younger and older children's amounts/ frequencies of gender-typed behaviors should not differ substantially. In other words, it was expected that developmental differences in children's amounts of gender-role knowledge and flexibility would not be associated with any significant differences in younger and older children's reported amounts/ frequencies of gender-typed behaviors.

Second, consistent with Cognitive Social Learning approaches we expected strong sex, but not age, differences between children's reported amounts/frequencies of gender-typed behaviors. Third, and consistent with Cognitive Social Learning and other models of gender-role development, significant relations among boys' and girls' reported amounts/frequencies of gender-typed behaviors and the frequencies at which the mother or father (that is a significant male or female adult model) performed masculine and feminine tasks were expected. Children who had same-sex parents who more frequently engaged in gender-appropriate, gender-typed household

tasks were expected to be reported as demonstrating greater amounts of gender-appropriate, gender-typed behaviors themselves. (All predictions are outlined in Table Two).

Analyses consisted of: (1) a series of mixed design ANOVA's with children's sex and age group as between subject variables and children's: (a) reported amount/frequencies of (same-sex, other-sex, and combined) gender-typed behaviors, (b) gender-role knowledge, and (c) gender-role flexibility as within subject variables, (2) a series of non-hierarchical multiple regressions with a model consisting of children's age in months and aspects of their social environment was used to predict their amount/ frequencies of same-sex and other-sex gender-typed behaviors, and (3) Person zero-order correlations among all variables were completed last.

TABLES THREE AND FOUR

CONCLUSIONS

Results were generally consistent with predictions. First, as expected, older children demonstrated greater amounts of gender-role knowledge than their younger counterparts. In addition, younger and older children's amounts of gender-role flexibility (that is the frequency at which children put gender-typed objects into the "both" box) also differed. However, as predicted, whereas younger and older children's amounts of gender-role knowledge and flexibility distinctly differed, younger and older children's

reported amounts/frequencies of gender-typed behaviors did not differ substantially.

Notice however, that contrary to the belief that gender-role flexibility increases with age, results indicated that younger children demonstrated more flexibility than older children. (The means associated with these significant repeated measure interactions are displayed in Tables Three and Four.)

Consistent with predictions, boys' and girls' reported patterns of masculine and feminine gender-typed behaviors differed significantly. However, as predicted, younger and older children's reported patterns of masculine and feminine gender-typed behaviors did not differ significantly. (These means are presented in Table Five.)

TABLE FIVE

Last, as expected, results indicated a number of significant associations among boys' and girls' reported amounts/frequencies of gender-typed behaviors and aspects of their social environments. Examination of individual Beta weights and Pearson zero-order correlations indicated that consistent with predictions: 1) boys and girls with parents who indicated they exhibited more traditional patterns of performing gender-typed household tasks were reported as engaging in more gender-appropriate, gender-typed behaviors.

Other aspects of children's social environments were also

associated with children's reported amount/frequencies of gender-typed behaviors. Consistent with previous gender-role research and theory, the patterns of these associations, and their relative strengths, differed for boys and girls.

The pattern of associations among boys' reported amount/frequencies of gender-typed behaviors and their social environment was rather straightforward, and consistent with predictions. Compared to boys whose fathers less often engaged in masculine household tasks, boys whose fathers more frequently performed masculine household tasks were reported as showing: 1) a higher ratio of masculine to feminine gender-typed behaviors, and 2) a higher amount/frequency of masculine gender-typed behaviors overall. Also, compared to boys whose mothers reportedly engaged less frequently in masculine household tasks, boys whose mothers frequently performed masculine household tasks were reported as showing a higher frequency of feminine gender-typed behaviors. Last, boys described as preferring educational television reportedly engaged in more feminine gender-typed behaviors than boys preferring entertainment tv.

The pattern of findings associated with girls' reported gender-typed behaviors and aspects of their social environments were quite intriguing and complex. Compared to girls whose fathers engaged in masculine household tasks less frequently, girls whose fathers reportedly performed masculine household tasks more frequently were described as exhibiting: 1) a higher ratio of feminine to masculine gender-typed behaviors, and 2) a higher

amount/frequency of feminine gender-typed behaviors overall. Additionally, girls whose fathers reportedly performed feminine household tasks more frequently were described as engaging in more masculine gender-typed behaviors, compared to girls whose fathers engaged less often in feminine household tasks. Girls whose mothers performed masculine household tasks more frequently were described as engaging in more masculine gender-typed behaviors than girls whose mothers engaged less frequently in masculine household tasks. Last, girls from families with divorced or separated parents reportedly engaged in feminine gender-typed behaviors more frequently than girls from two-parent, intact families.

What then can be made of these complex patterns of findings? First and foremost it can be can seen that early gender-role development is a multidimensional and somewhat complicated construct, involving certain cognitive, behavioral, and social components. Moreover, there are important developmental and individual differences in the ways these different components emerge in young children, and the ways they impact each other throughout early gender-role development.

As expected, children demonstrated increases in gender-role knowledge with age (Edelbrock & Sugawara, 1978). Also, children showed a developmental decrease in gender-role flexibility. As interesting as these findings are, however, these developmental patterns of knowledge and flexibility acquisition were apparently unimportant in mediating children's gender-typed behaviors. In

other words, younger and older children were acting in gender-typed fashions, regardless of the amounts of gender-role knowledge or flexibility they possessed.

What is seen is a lack of association between what many psychologists would say are two very important aspects of gender-role development: cognition and behavior. However, these patterns are consistent with other research which has reported a lack of relations between children's gender-role knowledge and flexibility and other important components of early gender-role development, such as the salience of the gender dimension to children and children's gender-typed toy preferences.

Second, results indicated that different aspects of boys' and girls' social environments affected their gender-typing activities quite differently (viz., Levy 1989b). As expected, whereas the patter of findings concerning girls' gender-typing was quite complex. boys' reported amounts/frequencies of gender-typed behaviors were primarily associated with the frequency with which their parents engaged in certain gender-typed household tasks. This divergence is consistent with previous gender-role research and theory which has suggested that boys' path(s) of gender-role development are more rigidly defined and hence predictable (Katz, 1979). On the other hand, girls' pattern(s) of gender-role development appear less consistent, and perhaps more impressionable by social forces.

Of course the small sample size of the present study, as well as the imprecise nature of its measures, compel us to draw conclus-

ions from these data prudently. However, it is interesting to note that although the present pattern of results are complex and statistically fragile, they concur with an abundance of previous research and theory regarding early gender-role development.

In closing, it can be seen that attempts to alter or predict aspects of boys' and girls' gender-role development and gender-typing activities must be wary of developmental and individual differences. Whereas similar social cognitive "processes" may be important for both boys' and girls', and younger and older children's, gender-role development, research suggests that these "processes" may affect various cognitive and behavioral aspects of boys' and girls', and younger and older children's, gender-role development quite differently.

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TABLE ONE

Means and Standard Deviations of Variables (N = 47)

VARIABLE	MEAN	S.D.
1) Children's Age in Months	49.45	9.89
2) Children's Sex (1 = boy, 2 = girl)	1.49	0.51
3) Gender-Role Knowledge	70.17	10.78
4) Gender-Role Flexibility	20.03	20.25
5) Gender-Typed Behavior[1] (Same-Sex minus Other-Sex Behavior)	0.09	0.14
a) Same-Sex Gender-Typed Behavior[2]	2.22	0.26
b) Other-Sex Gender-Typed Behavior[2]	2.70	0.27
6) Parental Marital Status (1 = Married, 2 = Divorced/Separated)	1.31	0.52
7) Children's Preferred Television (1 = Entertainment, 2 = Educational)	1.42	0.48

[1] A LOWER score indicates a LESS gender-typed behavioral pattern. A HIGHER score indicates a MORE gender-typed behavioral pattern.

[2] A HIGHER score represents a LOWER frequency of behavior.

TABLE TWO

PREDICTIONS

1) Older children were expected to demonstrate significantly more gender-role knowledge than younger children.

2) Significant difference between younger and older children's amounts of gender-role flexibility.

3) Significant difference between boys' and girls' reported amounts/frequencies of masculine and feminine gender-typed behaviors.

4) Significant associations among boys' and girls' reported amounts/frequencies of same-sex and other-sex gender-typed behaviors and the reported frequency at which their same-sex and other-sex parent(s) performed masculine and feminine household tasks.

4a) Children whose same-sex parent engaged in gender-appropriate household tasks more frequently were expected to be reported as demonstrating greater amounts of gender-appropriate behaviors.

TABLE THREE

Children's Gender-Role Knowledge and Reported Amounts/Frequencies of Gender-Typed Behaviors[1] as a Function of Age

AGE GROUP	n	G-ROLE KNOWLEDGE	G-TYPED BEHAVIORS
Younger Age Group	23	60.26[a]	0.10
		(20.50)	(0.13)
Older Age Group	24	80.42[a]	0.08
		(16.35)	(0.16)

[1] A LOWER score indicates a LESS gender-typed behavioral pattern. A HIGHER score indicates a MORE gender-typed behavioral pattern.

[a] Significant difference at $p < .0001$

TABLE FOUR

Children's Gender-Role Flexibility and Reported Amounts/Frequencies of Gender-Typed Behaviors[1] as a Function of Age

AGE GROUP	n	G-ROLE FLEXIBILITY	G-TYPED BEHAVIORS
Younger Age Group	23	23.37[a]	0.10
		(24.96)	(0.13)
Older Age Group	24	17.08[a]	0.08
		(14.21)	(0.16)

[1] A LOWER score indicates a LESS gender-typed behavioral pattern. A HIGHER score indicates a MORE gender-typed behavioral pattern.

[a] Significant difference at $p < .20$

TABLE FIVE

Children's Reported Amounts/Frequencies of Masculine and Feminine Gender-Typed Behaviors[1] as a Function of Children's Age and Sex

	n	MASCULINE BEHAVIORS	FEMININE BEHAVIORS
AGE GROUP			
Younger Age Group	23	2.40	2.58
		(0.56)	(0.49)
Older Age Group	24	2.37	2.50
		(0.49)	(0.56)

BEHAVIORS	n	MASCULINE BEHAVIORS	FEMININE
CHILDREN'S SEX			
Boys	24	2.18[a]	2.80[b]
		(0.50)	(0.48)
Girls	23	2.60[a]	2.26[b]
		(0.46)	(0.42)

[1] A HIGHER score represents a LOWER frequency of behavior.
[a] Significant difference at $p < .005$

[b] Significant difference at $p < .0001$